Analysis of Supply Chain Management Affecting the Underpricing of Companies Conducting Initial Public Offerings (IPO) on Indonesia Stock Exchange in 2018

Rame Priyanto[1], Aty Herawati[2]

[1,2]*Master of Management, Graduate School of Mercu Buana University, Jakarta, Indonesia,*
[1]rame.priyanto@mercubuana.ac.id
[2]aty_herawati@mercubuana.ac.id

Abstract- **In the initial public offering activities of the company to obtain funds from the public, there is often an underpricing phenomenon, which is when the determination of the company's stock price at the time of an IPO is lower than the price that occurs on the secondary market on the first day. This study aims to analyze the influence of supply chain management (underwriter reputation, supply chain management reputation, firm age, and percentage of the public offering to underpricing of companies conducting IPO on the Indonesia Stock Exchange in 2018). Research data were cross-section data with observation period from 2nd January to 31st December 2018. The sampling method used was purposive sampling. From the population of 57 companies conducting IPOs, 54 issuers met the sample criteria. The analytical method used in this study was multiple linear regression. The results showed that the reputation of the underwriter, supply chain management's reputation, firm age, and percentage of public offering simultaneously influenced underpricing. Partially, the reputation of the underwriter and supply chain management's reputation have a significant negative effect, while the firm age and the percentage of the public offering do not have a significant effect. Underwriter reputation has the biggest influence on underpricing.**

Keywords: Underpricing, underwriter reputation, supply chain management, firm age, percentage of the public offering

1. Introduction

The capital market becomes a means for companies to sell their shares to the public in order to obtain a source of funds to be used to finance the expansion or their operational activities. On the other hand, the capital market also becomes the place for investors to invest by purchasing a number of securities with the expectation that they will get benefits from the activity results. Companies perform the Initial Public Offering (IPO), hoping to obtain funds through the offer of some shares owned to the public. The activities of investors who buy and sell stocks acquired in the prime market have made the secondary stock markets work well.

Underpricing is one of the phenomena that often arise in IPO activities. In [1] stated that at the time of the IPO, the stock price sold by the initial market had been determined by an agreement between an issuer's company and the underwriter, while the market mechanism would have affected the stock price on the secondary market through the power stock supply and demand. Underpricing will occur when the company's stock pricing at the time of IPO is lower than the price incurred in the secondary market on the first day.

Underpricing, in its various levels, becomes a common phenomenon in various countries' capital markets. The phenomenon has made Underpricing an interesting theme to be examined by many researchers. According to [2] of their 115 articles written from 2002 to 2018, 60% were related to underpricing, 9% were regarding overpricing, and 1% discussed underpricing and overpricing, 30% were not related to underpricing nor overpricing. More than 51% were taken from 2006–2009, which are related to the factors affecting underpricing.

Table 1: Underpricing in Some Countries

No.	Researcher (Year of Publication)	Country	Observation Period	*Underpricing*
1	Alnodel & Khawaja (2018)	Kingdom of Saudi Arabia	2004 - 2017	226.48%
2	Yakoob (2016)	Malaysia	2012 - 2015	13.14%
3	Fadila, Hamzah, & Sihombing (2015)	Indonesia	2010 - 2014	25.79%
4	Johnstain & Roten (2015)	China	1985 - 2012	19.12%
5	Asiri & Haji (2015)	Bahrain Kuwait Oman Qatar UAE	2000 - 2013	Bahrain -26 % Kuwait 132% Oman -13% Qatar 196% UAE 235%
6	Jeribi (2015)	Tunisian	1994 - 2012	25%
7	Mumtaz & Ahmed (2014)	Pakistan	2000 - 2011	30.30%
8	Isola, Teixeira, & Ferreira (2014)	Portugal	1990 - 2010	32,43%
9	Dell'acqua, Tetti, Etro, & Murri (2014)	Italy	2001- 2012	6,75%
10	Xu & Zhao (2014)	China	1990 - 2010	110.33%
11	Bansal & Khanna (2012)	India	2000 - 2011	160,99%

Source: Research Journal (processed)

Information asymmetry, both between issuers and underwriters and among investors, is suspected to be one of the causes of the Underpricing phenomenon. To suppress the occurrence of information asymmetry, a company publishes a document containing information about the corresponding company, hereinafter referred to as the prospectus. The information contained in the prospectus will be very helpful for the investor in order to make rational decisions, thus they will know about the risk(s) of the real value of shares offered [3].

Indonesia Stock Exchange, hereinafter abbreviated as IDX, scored a record in 2018 by listing 57 issuers who made an IPO. This amount sharply increased compared to the average of the last four years with fewer than 25 issuers per year. However, the increased number of companies

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conducting IPO was also followed by the increase of underpricing occurred in 2018, amounted to 47.25%. It was the highest average underpricing value for the last five years. Description of the number of companies performing IPO and the underpricing level taken place from 2014 to 2018 can be seen as shown in Figure 1.

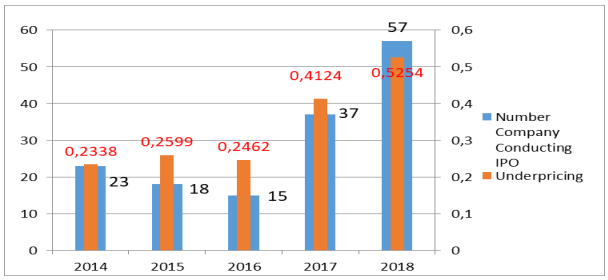

Figure 1: Number of IPO and Underpricing Levels of 2014–2018

The variables of financial ratio and supply chain management have been used in the previous researches as the variables that have affected the underpricing levels. Research conducted by [4, 5] found that in explaining the phenomenon of underpricing, non-accounting information has had a greater coefficient of determination compared to the accounting information, so that it has given greater influence. Based on the consideration, this research then used SCM, which were the combination and modification of previous studies, namely underwriter reputation, supply chain management reputation, firm age, and percentage of the public offering.

2. LITERATURE REVIEW

2.1. Asymmetric Information Theory

[6] was the first person to introduce the concept of Asymmetric information through his paper titled "The Market for `Lemons': Quality Uncertainty and The Market Mechanism". Akerlof developed an asymmetrical information concept with an example of a car market case. The basic argument was that in many markets, shoppers used some market statistics to gauge the value of a class of goods. Therefore, the buyers see the average of the overall market, while the sellers have more in-depth information or knowledge about a certain item. Akerlof argued that this asymmetric information had encouraged the sellers to sell their goods that were less than the average of market quality. The average quality of goods in the market then would be reduced to be lower than the market size.

The concept of asymmetric information also has been developed and applied in various areas by some researchers. The concept of information on initial public offerings has suggested that there are still phenomena of pricing mistakes/errors that can be explained with the asymmetric information theory. [7] defined investors into two types, i.e. knowledgeable investors and uninformed investors who had obtained limited information to estimate the actual value of initial public offerings. Each party is faced with asymmetric information about a stock offering activity. Issuers have in-depth information about the company, but they cannot estimate the demand and require the underwriter to contact investors. Underwriters have rich information about the companies' financial situation, market information, well-running sales networks, and also information on potential investors in the market. Meanwhile, the knowledgeable investors have personal information and knowledge about the expected range of market prices based on the capital or profit resources, while uninformed investors can only invest randomly due to lack of knowledge the companies need. Theoretically, the knowledgeable investor will submit a prime bid or an initial offering below the fair price.

2.2. Signaling Theory

[8] was the first to trigger Signaling Theory through his research on the employment market and gave it the title "Job Market Signalling." Spence argued that asymmetric information had always occurred in the employment market. In order to reinforce the decision-making of recruitment in a company, Spence created signal criteria in the form of educational background, previous work experience, race, gender, and personality. In the context of the initial public offering, the internal management of the company and external parties or investors become the parties involved. The management of the company will provide a relevant signal to the investor who serves as the recipient. Through the understanding of the received signal, the investors will adjust it to the investment decision making.

[9] further developed Spence's theory and argued that the executive of the company who had better information about his company would be encouraged to convey that information to investors. Annual financial statements containing information of the company state, past records, or the company's conditions are also able to reflect a company's performance as a form of delivered information. A similar opinion was presented [10], stating that parties within the company and outside the company had become parties involved in asymmetric information. When investors get the signals related to information about the company such as dividend payment, revenue announcement, and so on, those will encourage the investors to invest the funds they have.

2.3. Initial Public Offering (IPO)

Initial Public Offering (IPO) is the initial stock sales activity by a company to the community (public) in the capital market. A Law of The Republic of Indonesia Number 8 of 1995 concerning the Capital Market defines that: "Public Offering is an activity of offering stocks done by the Issuer to sell the stocks to the public based on the ordinances set out in this law and its implementation rules." IPO must be done by the issuer to sell its shares in the stock exchange for the first time.

2.4. Underpricing

At the moment the offering price is lower than the price formed once the stock has been traded on the first day on the secondary market, then there will be underpricing [11].

Based on theoretical and empirical constructions, information asymmetry, and signaling, a literature review was compiled to identify a variety of factors perceived as proxies to estimate underpricing levels. The factors influencing underpricing have been summarized as follows:

a. Specific factors of publication, information disclosed by the issuer about the issuance of shares and company information through a prospectus that will be carefully evaluated by potential investors.

b. Endogenous company's specific factors, indicating that the specific characteristics of the company are crucial in determining the underpricing level of the IPO. The company's specific characteristics include age, size, industry, ownership structure, brand loyalty, and so on.

c. Specific economic factors that are exogenously influential. When the IPO issuance process is conducted, the external environmental factors have a significant impact on the information flow, price perception, and price stability. Those exogenous factors also affect the decision to go public, so that the macroeconomic environmental factors are crucial in influencing the level of information asymmetry and consequently underpricing levels of IPO.

Based on the above outline, the conceptual framework of this research is shown in the following Figure 2:

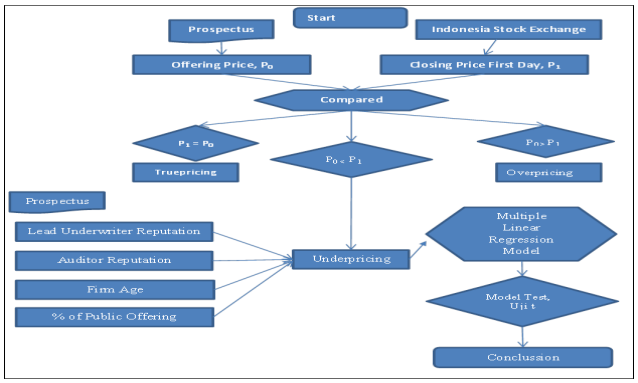

Figure 2: Research Conceptual Framework

2.5. Hypothesis

Based on previous theoretical and research reviews, the following hypotheses were made:

H1: Underwriter reputation affects the extent of underpricing level of the companies performing their IPO in 2018.

H2: Supply chain management reputation on the stocks offered to the public affects the extent of underpricing level of the companies conducting their IPO in 2018.

H3: Firm age affects the extent of underpricing level of the companies conducting their IPO in 2018

H4: Percentage of the public offering affects the extent of underpricing level of the companies conducting their IPO in 2018.

3. RESEARCH METHOD

3.1. Definitions of Variables, Types, and Data Sources

The dependent variable used in this study was underpricing, whereas the independent variables were the reputation of underwriters, the reputation of the supply chain management, the firm age, and the percentage of shares offered to the public based on the data research period of 2018.

Table 2: Variable Definitions, Types, and Secondary Data Sources

	Variable	Symbol	Indicator	Scale	Data Source
Y	*Underpricing*	UP	Underpricing Level	Rasio	BEI, e-bursa.com
X1.	Underwriter Reputatio	UND	Underwriter Rank	Dummy	Prospectus, IDX
X2	Auditor Reputation	AUD	Auditor Rank	Dummy	Prospectus, IDX
X3	Firm Age	AGE	Year of Establishment – year of IPO	Ratio	Prospectus
X4	Percentage of Shares Offered	PSO	Number of shared offered divided by the total shares	Ratio	Prospectus

Source: Processed Data (2019)

4. DATA ANALYSIS METHOD

The data analyses used were descriptive analysis, classical assumption test (normality test, heteroscedasticity test, multicollinearity test, and autocorrelation test), multiple regression analysis with hypotheses test (coefficient of determination/R2 test, F-statistic test and T-statistic test) using Eviews 10 and SPSS 25 programs.

The analysis method used in this research was the multiple linear regression analysis. According to [12], the multiple linear regression has been used to see the influence of some independent variables on dependent variables or to predict a value of a dependent variable based on the values of independent variables. In order to test the above hypothesis, thus the following equation model was used:

UPi = a + b1UNDi + b2AUDi + b3AGEi + b4PSOi + ei

In which:

UP = Underpricing level of the companies conducting their (IPO) in 2018

a = constant

b1, b2, b3, b4, are regression coefficients for the respective independent variables. Least Square Method was used to estimate the values of a, b1, b2, b3, b4 [12].

AUD= Dummy variable of Supply chain management Reputation

AGE = Firm Age

PSO = Percentage of the Public Offering

e = error term.

5. RESULT AND DISCUSSION

5.1. Descriptive statistics

Based on the results of the combined data processing of the Indonesia Stock Exchange, the issuers' prospectus, and the e-bursa.com of the 57 companies conducting the IPO in 2018, the Underpricing took place in 54 companies (94.74%), while 3 companies experienced overpricing (5.26%). All companies experiencing Underpricing on the IPO in 2018 have been made into samples in this research. An overview of companies experiencing Underpricing in 2018 can be seen in Table 3.

Table 3: Descriptive Statistics of Variable of the Companies Experiencing Underpricing on the IPO in 2018

	Underpricing
Mean	0.525441
Median	0.500000
Maximum	0.700000
Minimum	0.004545
Observations	54

Based on Table 4.2, it can be seen that in 2018, the average Underpricing reached 0.5254 or 52.54%, with the minimum value of 0.005 or 0.5% and the maximum value of 0.70 or 70%. The extent of Underpricing value in 2018 showed that the companies did, through the selected underwriters, perform too low initial share pricing estimation, amounted to 52.54% compared to the price sold in the secondary market.

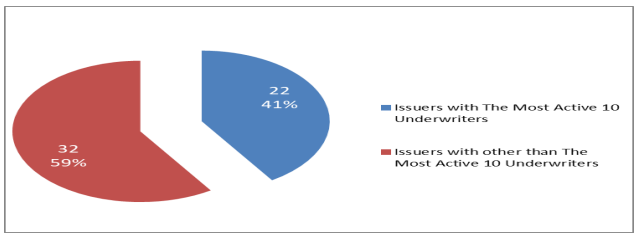

Figure 3: Description of Underwriter Reputation Variable

The description of underwriter reputation used by 54 companies, as the samples, is presented in Figure 3. Issuers who used underwriter services that were included in the 10 most active underwriters were smaller (41%, or 22 issuers) compared to issuers using underwriters outside or other than the 10 most active underwriters (59%, or 32 issuers). Description of Supply chain management Reputation used by the samples of companies is presented in Figure 4. Based on the figure, issuers who used the service of Public Accountant affiliated/the member of the Big 10 global supply chain management were 28 issuers (52%), larger than the issuers using the services of public accountant outside the Big 10 global Supply chain management members, that are 26 issuers (48%).

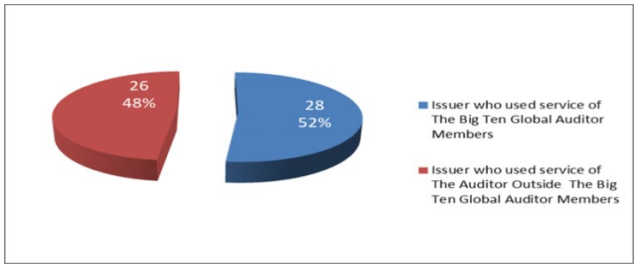

Figure 4: Description of Supply chain management Reputation Variable

Description of firm age variable and the percentage of the public offering by the issuers can be seen as presented in Table 4. Of 54 sample companies, it was acquired that the average corporate age was 15.31 years, with the highest age of 64 years and the shortest of 2 years old. The percentage of the public offering to the public by a company conducting IPO in 2018 and experiencing Underpricing achieved was an average of 26.54%. The lowest percentage of the public offering was given by PT. Bank Tabungan Pensiunan Nasional Syariah, TBK, amounting to 10%. On the other hand, the largest share offering to the public was owned by PT. Satria Conduction Prima Tbk, which is 52%.

Table 4: Descriptive Statistics of Firm Age and Percentage of the Public Offering Variable

	Age	Percentage Share Offered
Mean	15.31481	26.54982
Median	12.00000	25.86500
Maximum	64.00000	52.00000
Minimum	2.000000	10.00000
Observations	54	54

6. MULTIPLE REGRESSION ANALYSIS

6.1. Classic Assumption Test

The research employed multiple regression analyses used to see the influence of some independent variables against dependent variables or also to predict the value of a dependent variable based on the values of independent variables [12]. The data analysis method used was a multiple regression with the use of the smallest quadratic equation (Ordinary Least Square) in assessing or estimating model. Multiple linear regression was used to figure out the functional relationship between the dependent variables (Y) with two or more independent variables. The dependent variable in this study was Underpricing, while its independent variables included the reputation of underwriters, the reputation of the supply chain management, the firm age, and the percentage of the public offering. Based on the data processing using Eviews, the following Data Analysis of Multiple Linear Regression was obtained, as presented in Table 5 as follows:

Table 5: Multiple Linear Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.639633	0.069647	9.183969	0.0000
UNDERWRITER	-0.211728	0.042202	-5.016973	0.0000
AUDITOR	-0.117433	0.042181	-2.784038	0.0076
AGE	-0.001551	0.001630	-0.951648	0.3459
PERCETAGE SHARE OFFERED	0.002136	0.002125	1.004947	0.3199

Source: Processed Secondary Data (2019)

Based on Table 5, a regression equation model was obtained, as follows: UP = 0.6396 - 0.2117UND – 0.1174AUD – 0.0015UAGE + 0.0021PSO

6.2. Normality Test

The test results using a Jarque-Bera test obtained normal-distributed residuals. The normality test was based on the comparison between Jarque-Bera's probability values with a significance value of 5%. If the probability value is > 5%, thus H0 is accepted, meaning that residuals are normally distributed or, on the contrary, residuals are not normally distributed. The results of the normality test can be seen in the following Figure 5.

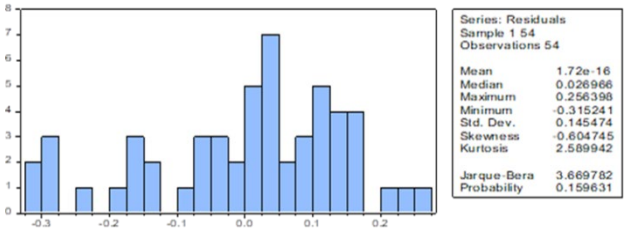

Figure 5: Normality Test Results
Source: Eviews of Processed Secondary Data (2019)

Based on Figure 5, JB value was 3.669782, while the Chi-Square table value, by looking at the values of 4 independent variables and a significance value of 0.05, was 9.488. By comparing the smaller JB value and the Chi-Square table value (3.669782 < 9.488), it can be concluded that residual data in this research were normally distributed.

6.3. Multicollinearity Test

In [13] have stated that multicollinearity test is performed to determine whether there is a high or a perfect correlation between independent variables or not in a regression model. The testing whether there is or no multicollinearity symptoms can be carried out by looking

at the values of VIF (Variance Inflation Factor) and Tolerance. If the value of VIF is below 10.00 and the value of Tolerance is more than 0.100, it is concluded that the regression model has no problem with multicollinearity. The multicollinearity test results using an EViews program are presented in Table 4.11. It can be noted from Table 6 that the value of Centered VIF for four independent research variables was less than 10, thence it can be concluded that there is no multicollinearity problem in the regression model.

Table 6: Multicollinearity Test Results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.004851	11.44309	NA
UNDERWRITER	0.001781	1.711762	1.014378
AUDITOR	0.001779	2.176399	1.047896
AGE	2.66E-06	2.487847	1.018669
PERCENTAGE SHARE OFFERED	4.52E-06	8.564414	1.052868

Source: Processed Data, 2019

6.4. Heteroscedasticity Test

Heteroscedasticity is a state or situation where there is a variant inequality of the residuals in the regression model [14]. It is further stated that a good regression model requires no problem or issue of heteroskedasticity. The heteroscedasticity test is done through, one of which, the Sperman Correlation Test method using SPSS application. This test is performed by correlating the independent variables to the residual values, i.e. the difference between the value of the Y variable and the predicted value of the Y variable. If the significance value between independent variables and the residuals is more than 0.05, then there is no heteroskedasticity problem. From the output as presented in Table 7, it can be seen that the correlation of each independent variable with the residual has a significance value of more than 0.05. Therefore, it can be inferred that there is no heteroscedasticity issue on the regression model.

Table 7: Heteroskedasticity Test Results Using Sperman Correlation Method

Correlations

			Unstandardized Residual
Spearman's rho	*Underwriter*	Correlation Coefficient	.121
		Sig. (2-tailed)	.384
		N	54
	Auditor	Correlation Coefficient	.112
		Sig. (2-tailed)	.421
		N	54
	Age	Correlation Coefficient	.049
		Sig. (2-tailed)	.726
		N	54
	Percentage Share Offered	Correlation Coefficient	-.076
		Sig. (2-tailed)	.587
		N	54
	Unstandardized Residual	Correlation Coefficient	1.000
		Sig. (2-tailed)	.
		N	54

Source: Processed Data, 2019.

6.5. Autocorrelation Test

In [15] stated that autocorrelation test was conducted to test whether there was a correlation between the residual errors in the t period with errors in the t-1 period (formerly) in a linear regression model. A good regression model requires the absence of autocorrelation issues. If there is a correlation, there is also an autocorrelation problem. Any problem of autocorrelation results in the confidence interval of the estimated results to widen, so the significance test becomes less strong. The decision-making in the autocorrelation test is as follows:

a. DU < DW < 4-DU thus H0 is accepted, there is no autocorrelation

b. DW < DL or DW > 4-DL thus H0 is rejected, there is an autocorrelation

c. DL < DW < DU or 4-DU < DW < 4-DL thus there is no conclusion.

The Durbin Watson value in the output Regression can be presented in the following Table 8:

Table 8: Autocorrelation Test Results

Variabel	Coefficient	Std. Error	t-Statistic	Prob.
Sum squared resid	1.121626	Schwarz criterion		-0.666978
Log likelihood	27.98086	Hannan-Quinn criter.		-0.780117
F-statistic	9.454542	Durbin-Watson stat		1.802424
Prob(F-statistic)	0.000010			

Source: Processed Data, 2019

Based on the table, the Durbin Watson value was 1.802424. Meanwhile, from the DV table with a significance value of 0.05 and total data (n) = 54, as well as k = 4 (k is the number of independent variables), the DL value was 1.4069 and DU was 1.7228 (so it can be counted that 4-DU was 2.2772 and 4-DL was 2.5931). Since the DW value resides between DU and 4-DU, thus there is no autocorrelation problem. It can be illustrated as follows:

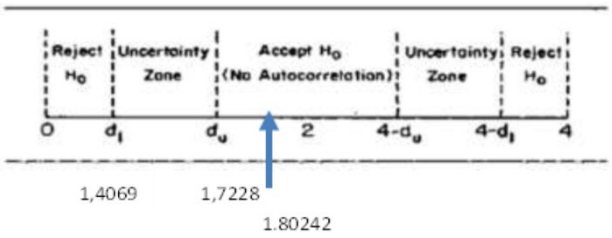

Figure 6: Reception Area of Autocorrelation Test

6.6. Model Test

The F-Statistic test essentially shows whether all the independent variables included in the model have the same or simultaneous influence over the dependent variables [16]. This test can be explained using a variant analysis (Analysis of Variance, ANOVA). An overview of the reception area or rejection of the F-test hypothesis is presented in Figure 7. Ftable value can be seen in F table, using significance level of 0.05 with df1 (number of variable –1) or 5-1 = 4, and df2 (n–k-1) or 54–4-1 = 49 (k is the number of independent variables). The search result showed the Ftable was 2.561. Based on the Eviews calculation, Fcount was 9.454. Since Fcount > Ftable (9.454>2.561), therefore H0 is rejected, meaning that underwriter, supply chain management, firm age, and percentage of the public offering together affect the underpricing level of the companies conducting IPO in 2018.

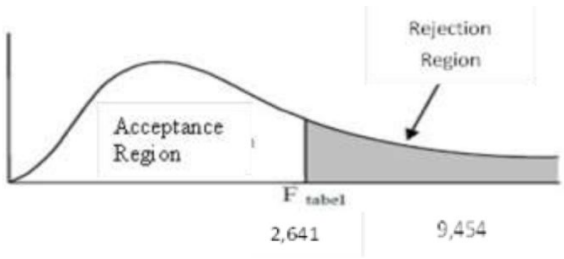

Figure 7: Reception Area of F test

6.7. Coefficient of Determination Test (R2 Test)

Coefficient of determination (R2) is used to figure out to what extent the ability of the model in describing the variation of dependent variables [17, 18]. Results of determination analysis (Adjusted R2) obtained after data processing are presented in the following Table 9:

Table 9: Coefficient of Determination Analysis Results

R-squared	0.435602	Mean dependent var	0.525441
Adjusted R-squared	0.389529	S.D. dependent var	0.193639

Source: Processed Data, 2019

Based on the table, the value of Adjusted R2 was 0.3895 (38.95%). This suggests that variations of independent variables used in the model (underwriters, supply chain managements, firm age, and percentages of the public offering) are able to explain the 38.95% of the Underpricing variable variations, while the remainder is described by other variables that are not included in this research model. In [19] stated the coefficient of determination for cross-section data was relatively low due to the large variety of data between each observation.

6.8. T-Statistic Test (Partial Significance)

A T-test is conducted to prove whether independent variables individually affect dependent variables [20]. It is further explained that the relationship between variables can be positive or negative by using a two-sided test.

Table 10: T-test Results (Partial Test)

Variable		Influence	Significance	Hypothesis
	UNDERWRITER	Negative	Significant	Accepted
	AUDITOR	Negative	Significant	Accepted
	FIRM AGE	Negative	Not Significant	Rejected
	PERCENTAGE SHARE OFFERED	Negative	Not Significant	Rejected

Source: Eviews of processed secondary data (2019)

7. RESULT AND DISCUSSION

7.1. Influence of Underwriter's Reputation on Underpricing

Underwriter Reputation influenced the underpricing level in the companies conducting their IPO in 2018. It is due to the value of -tcount<-ttable (-5.016<-2.010), therefore H0 was rejected. The probability value of the underwriter reputation in this research was 0.001 and significance at a=5%. The coefficient of dummy variable of underwriter reputation was -0.211, meaning that issuers that used the top 10 ranks of underwriters obtained average underpricing lower than 0.211 compared to the average underpricing obtained by issuers who used underwriters other than those in the top 10 ranks, assuming that other variables remained. The underwriter's reputation was defined based on the frequency of the guarantor company which had become a lead underwriter for the last five years before the guarantor company had become issuer underwriter of IPO 2018. The reputation of an underwriter will signal the investor, so that it can estimate the real value that is appropriate for the IPO company. The reputation of underwriters can provide signals for markets to assess the quality of good or bad issuers. The frequency of the underwriter company becoming a lead underwriter suggests the issuer's trust to the underwriter, the one having an ability to bear the losses if the guaranteed stocks are not selling well. Therefore, the frequency of becoming a lead underwriter shows the reputation of the underwriter, thence an underwriter in low reputation gains only a few or low trust from the issuers. From the issuer's prospectus, it is known that the commitments made between underwriters and issuers are full commitment, meaning that if the shares are not entirely sold, underwriters are obliged to purchase the remaining unsold shares. Given this condition, for underwriters who have not had a reputation, they will be careful in determining the price to avoid the risk of buying the remaining shares, which can be done by pressing prices as low as possible. The low price set by underwriters outside the top ten ranks makes the higher underpricing more likely to happen, and vice versa. Unlike the guarantors who have a low reputation, high-reputable underwriters will dare to provide high prices as well as the consequences and quality of their guarantee. Based on the average calculation, the underpricing experienced by companies that use highly reputable underwriters is lower than the average underpricing of companies that use less reputable underwriters. Some issuers' stocks have reached the upper limit of automatic rejection by the system (auto rejection) according to the provisions of the Indonesia Stock Exchange.

The results of this research support other previous studies by [21-30] all stating that the reputation of underwriter has negative impact on Underpricing. It is reinforced by Beatty's opinion, stating that the reputation of an underwriter has a significantly negative influence. However, this research suggests different results from the researches done [31, 32], stating that the reputation of underwriters does not have any significant effect on Underpricing. The reputation of underwriters has become the main consideration for the issuers and prospective investors in making their decisions. The better the reputation of underwriters used by the company, the more trust will be given by the issuers about the underwriter's performance, and hopefully, there is no underpricing in the company that conducts IPO. As for investors, the low price set by less reputable underwriters raises the chances of obtaining an initial return, thereby increasing underpricing.

7.2. The Influence of Supply chain management on Underpricing

Supply chain management Reputation (Public Accountant, KAP) had partially and significantly negative influence on Underpricing. This was due to the value of -tcount<-ttable (-2.784<-2.010), thus H0 was rejected. A negative t-count means that it has negative influence, therefore it could be concluded that supply chain management reputation had a partially negative influence, meaning that a company that used the top ten ranked supply

chain management had a lower Underpricing, i.e. 0.117 compared to the underpricing of issuers who used supply chain management outside the top ten ranks, assuming that other variables were fixed.

The Supply chain management appointed by the IPO company serves to check the company's financial statements as a prospective issuer. The hire of highly reputable supply chain managements can provide the checking results following the company's financial statements, thus the use of highly reputable supply chain managements can be used as a signal/direction on the quality of the company's financial statements. As a result, the company that is planning for an IPO will choose a Public Accountant that has a good reputation. The results of this research are in accordance with the results of previous studies carried out by [33-40], stating that the supply chain management's reputation has a significant negative influence. Reputable supply chain managements affect to the low Underpricing.

The research is in line with the conclusion by [32]. However, the results of this research contradict with the research results conducted by [35], concluding that the supply chain management's reputation has no significant effect on Underpricing.

7.3. The Influence of Firm Age on Underpricing

Age partially did not influence the Underpricing level of the companies conducting the Initial Public Offerings in 2018. This was due to the value of -tcount>-ttable (-0.951>-2.010), thus H0 was accepted and a conclusion could be drawn that the firm age had no significant effect on the underpricing level. As a consequence, the H3 proposed in this research, where the Firm Age had positive influence on the extent of Underpricing level of the companies conducting the initial public offering, was not acceptable. The variable of firm age did not show any significant impact on the Underpricing level.

This research results contradict with the researches done by [41-44], in which all of them supported the statement that firm age had significant negative impact. The long-standing companies have had lower Underpricing level rather than the newly established ones. Those long-established companies have shown how long they have been able to compete and survive. The older the company, the more they are able to provide more and wider information, thus reducing the occurrence of information asymmetry and suppressing Underpricing. However, this research is in line with other earlier studies by [33, 41, 44], in which all of them have concluded that the firm age has no influence on Underpricing. At that time, in deciding to invest their capital in a certain company, the investors did not pay attention to the firm age. The long-established companies were not necessarily having a more accessible company publication compared to the new ones, whereas the prospective investors preferred an easy and inexpensive way to obtain the company's information. The long-standing companies also did not necessarily have the company performance and better prospect compared to the new ones. Due to many developments in today's science and technology, it is easy for companies to publicize themselves and to read business prospects and future market exploitation.

7.4. The Influence of the Percentage of the Public Offering on Underpricing

The percentage of the public offering partially had no influence on the Underpricing level of the companies conducting their IPO in 2018. It was due to the value of tcount<ttable (1.004<2.010), thus H0 was accepted. As a result, H4 proposed in this research, stating that the percentage of the public offering has a negative influence on the underpricing level of the companies conducting their Initial Public Offering in 2018, was not acceptable. The variable of percentage of the public offering did not show any significant influence on the underpricing level. The arrow sign was negative, meaning that the higher the percentage of the public offering, the higher the underpricing was, which was 0.002.

This research result contradicts with previous ones done by [19, 32], finding that the percentage of the public offering had a negative significant influence on the Underpricing. The bigger the percentage of the public offering, the smaller the insecurity level would be, that eventually decreased the share underpricing. The percentage of ownership held by the owner (insiders) indicates the existence of private information owned by the owner/manager. Entrepreneurs are going to keep on investing in the company's capital if they are confident in the future prospects. Information on the level of stock ownership by entrepreneurs will be used by investors as a sign that the prospects of the company are good. The greater level of ownership that is withheld (or the smaller percentage of the public offering) will minimize the level of uncertainty in the future, so that the Underpricing level is also smaller. However, the results of this research support the studies conducted by [14, 17], stating that the percentage of the public offering had no significant effect on Underpricing. The percentage of the public offering in 2018 was relatively smaller compared to the older shareholders, indicating that the purpose of the company performing the IPO was to look for additional capital, not to take over the share ownership. The size of the percentage of the public offering has not been able to explain the company's prospect in the future. In investing their money, the investors are not focusing on the percentage of the public offering, but rather to the value of the share offered.

8. CONCLUSION

This research was aimed to examine the supply chain management that had affected the underpricing level of 53 companies conducting Initial Public Offering (IPO) in 2018 and experiencing the underpricing. The Underwriters had a partial negative and significant influence on the underpricing level of companies conducting IPO in 2018. The Supply chain managements partially had a negative and significant effect on the underpricing level of companies conducting IPO in 2018. The firm age partially had no significant influence on the underpricing level of companies conducting IPO in 2018. The percentage of the public offering partially had no significant influence on the underpricing level of companies conducting IPO in 2018. Meanwhile, Underwriter, Supply chain management, Age, and Percentage of the public offering together had an impact on the underpricing level of companies conducting IPO in 2018. The coefficient values of determination used in this model (underwriter, supply chain management, age, and percentage of the public offering) were able to explain

the 38.95% variation of underpricing variable, while the rest were explained by other variables excluded in this research model.

For companies that are planning for their future IPO, it is advisable to pay attention to the selection of highly reputable underwriters and supply chain managements. For the investors, in deciding what issuers have chosen to invest their money, it is advisable to consider the information contained in the company's prospectus, data on the underwriters and supply chain managements used by the issuers, whether they are having high reputation or not.

The thing that becomes a limitation in this research and needs to be noticed by the future researchers is that the variables used in this study are limited to supply chain management, while allegedly there are still other variables that affect Underpricing, for example, the current market conditions and macroeconomic factors. Of the variable of underwriter reputation, the one that was analyzed in this research was the rank of the underwriters, whereas in fact, some issuers were using more than one underwriters. Based on those limitations, the researcher here would like to recommend for the future researches to use more variables, such as market conditions (IDX Composite, global exchanges) and Indonesian macroeconomic factors (inflation, exchange rate, and Bank interest rates). For underwriter variables, they can be further analyzed, whether there is an influence on the number of guarantors involved with one issuer or not and the value of guarantee as well as ownership structure of underwriter.

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